

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDELG03010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Shepherdia argentea* (Pursh) Nuttall

COMMON NAME: Silver Buffaloberry, Silver Buffalo-berry, Buffalo berry, redberry, bullberry

SYNONYMS: *Hippophae argentea* Pursh, *Elaeagnus utilis* A. Nels., *Lepargyrea argentea* (Pursh) Greene

FAMILY: Elaeagnaceae

AUTHOR, PLACE OF PUBLICATION: *Shepherdia argentea* (Pursh) Nuttall, Gen. N. Amer. Pl., 2: 240. 1818. *Hippophae argentea* Pursh, Flora Americae Septentrionalis; or, ... 1: 115. 1814.

TYPE LOCALITY: Mouth of Niobrara River, 4 Sep 1804.

TYPE SPECIMEN: M. Lewis s.n. (HT: Hb. Lewis). Lectotype: PH-LC 204, Meriwether Lewis 39A, 4 Sep 1804.

TAXONOMIC UNIQUENESS: Species *argentea* is 1 of 3 species in the genus *Shepherdia* in North America and Arizona.

DESCRIPTION: A shrub or small tree with spreading to ascending, opposite branches, that is frequently thorny. The roots are shallow and much branched, readily sprouting. Plants are 2-4 m (6.56-13.13 ft) tall (2-6 m per Hickman 1993), with branchlets covered with silvery peltate scales. The leaves are opposite, petiolate, silvery-scurfy, 0.5-6 cm long and 3-14 mm wide, oblong, elliptic, or lanceolate to oblanceolate, and cuneate at the base, while rounded to obtuse apically. Petioles are 2-12 mm long. The bark is thin and smooth when young, becoming somewhat ridged and shredding into long strips with age; dull gray color. The precocious subsessile flowers are brownish-yellow with yellowish lobes, with male and female flowers borne on separate plants. Flowers are 2.5-4 mm long, clustered at the nodes, with hypanthium greenish yellow inside. Fruits are reddish, globe-shaped "berries" (drupes), 4-7 mm long, tart and edible.

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: Line drawing (Hickman, 1993: p. 543)

Line drawing (Elias, 1980: p. 691)

Color photo (Kohout, Wisconsin State Herbarium, *in*

<http://wiscinfo.doit.wisc.edu/herbariums/scripts/detail.asp?SpCode=SHEARG>)

Color photos (Southwest Colorado Wildflowers, *in*

<http://www.swcoloradowildflowers.com/>

Color photos of plant and habitat (*in*

<http://www.msue.msu.edu/msue/imp/mod03/visuals/shearb01.jpg>)

Color photo of community type (in <http://www.rwrp.umd.edu/>)

Color photos of plant and seeds (in USDA, PLANTS,
http://plants.usda.gov/cgi_bin/plant_search.cgi)

Line drawings of plant and seed (in USDA, PLANTS,
http://plants.usda.gov/cgi_bin/plant_search.cgi)

Color photo (USDA, NRCS Plant Materials Program, in
http://plants.usda.gov/cgi_bin/plant_search.cgi)

Color photo (Charles Webber 1998, CAS, in
http://www.calflora.org/cgi-bin/species_query.cgi?where-taxon=Shepherdia+argentea)

Color photo (in <http://www.laspilitas.com/plants/634.htm>)

Color photo (Greg Morgenson, in
<http://www.greenbeam.com/features/plant120103.stm>)

Color photo (in <http://www.plantsofthesouthwest.com/cgi-bin/plantview.cgi>)

TOTAL RANGE: From the arctic to the Mohave Desert in Western North America. From British Columbia east to Manitoba and south to California, Arizona, New Mexico, and Oklahoma. Small populations occur in western Minnesota and northwestern Iowa. Most commonly found in the northern Great Plains.

RANGE WITHIN ARIZONA: Northeast end of Houserock Valley, at base of Vermillion Cliffs, Coconino County. (SEINet, accessed 2005).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Deciduous shrub or small tree. Where there is abundant moisture and fertile soil, this plant may reach tree height (15 ft.); where conditions are severe, persists as a low or medium shrub.

PHENOLOGY: Flowers in spring from April to May, and fruits in summer from June to August. Active growth period is Spring and Summer.

BIOLOGY: Both species of *Shepherdia* (*argentea* and *canadensis*) are capable of fixing nitrogen via roots bearing nodules of bacteria. *Shepherdia argentea* is tolerant of very cold temperatures and can survive droughts, and is alkaline tolerant. Male and female flowers are produced in small clusters on the branchlets (on separate trees) of the previous season. Plants are sometimes cultivated for their attractive leaves and fruits, which are a food source for birds and other wildlife including black bears, mule deer, pronghorn, small mammals, quail, thrashers and other birds. Also cultivated for its use as windbreaks, cover for various birds and animal species, nesting sites for numerous songbirds, along with the use of its berries for making jelly.

HABITAT: In Arizona, collected in canyon bottom (riparian) on meadow edge, in Colorado Plateau (SEINet, accessed 2005). According to Hickman (1993), it occurs along streams, river bottoms, and slopes; elevation 1000-2000 m. Occurs in a variety of habitats including woodland, pinyon-juniper, shortgrass prairie, mixed-grass prairie, shrubland, sagebrush, and riparian (Esser 1995).

ELEVATION: 6,000 ft (1830 m) in Arizona, also reported in literature at 5,000 ft (1500 m). 3,000 – 7,500 ft (900-2250 m) for the range.

EXPOSURE: Full sun.

SUBSTRATE: Grows best on loam and sandy loam soils, but occurs on clay, clay loam, and gravelly textures as well. Occurs in sandy soils of the plains and canyons of western North America.

PLANT COMMUNITY: Northern Juniper Woodland, Pinyon-Juniper Woodland, Riparian (rivers and creeks), Sagebrush Scrub. In Arizona, associated with *Glycyrrhiza lepidota* (American licorice), *Pinus edulis* (twoneedle pinyon), and *Quercus gambelii* (Gambel oak). (SEINet, accessed 2005). In California, Nevada, and Colorado, it is a riverine floodplain shrub in narrowleaf cottonwood (*Populus angustifolia*), black cottonwood (*P. trichocarpa*), and willow (*Salix* spp.) communities. Throughout its range, *S. argentea* is often associated with Boxelder (*Acer negundo*), American elm (*Ulmus americana*), thinleaf alder (*Alnus incana* ssp. *tenuifolia*), Speckled alder (*A. incana*), Saskatoon serviceberry (*Amelanchier alnifolia*), basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), fringed sage (*A. frigida*), Red Osier dogwood (*Cornus sericea*), American plum (*Prunus americana*), hackberry (*Celtis occidentalis*), shrubby cinquefoil (*Potentilla fruticosa*), rubber rabbitbrush (*Chrysothamnus nauseosus*), black greasewood (*Sarcobatus vermiculatus*), Arkansas rose (*Rosa arkansana*), Wood's rose (*R. woodsii*), field horsetail (*Equisetum arvense*), Starry False Solomon's Seal (*Smilacina stellata*), sideoats grama (*Bouteloua curtipendula*), Kentucky bluegrass (*Poa pratense*), and plains muhly (*Muhlenbergia cuspidata*). (Esser 1995).

POPULATION HISTORY AND TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS: None (USDI, BLM AZ 2005)
[Bureau of Land Management Sensitive (USDI, BLM 2000)]

MANAGEMENT FACTORS: Although the wood is soft, weak, and of no commercial value, it is sometimes planted for multiple-row wind-breaks, erosion control, wildlife habitat enhancement, and land reclamation. For field transplanting, root cuttings will give best result. (Elias 1980, and Esser 1995).

S. argentea has a fair tolerance to fire in the dormant state and sprouts from rootstocks following fire. Sever fires probably kill the plants.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

“The fruit, which is abundant in some years, has been used in jam and jelly.” (Welsh et al. 1993).

“Fruit is sour, made into sauce eaten with buffalo meat along Overland Trail; sometimes cultivated as ornamental.” (Hickman 1993).

The genus *Shepherdia* originates from the British botanist John Shepard, while the species name *argentea* stands for silvery.

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